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George V. Voinovich
Governor

January 5, 1998

RE: DOE FEMP
COMMENTS: NRIA & NRRP

Mr. Johnny Reising
U.S. Department of Energy, Fernald Area Office
P.O. Box 538705
Cincinnati, OH 45253-8705

Dear Mr. Reising:

Ohio EPA has reviewed DOE's August 27, 1997 submittal "Revised Fernald Natural Resource Impact Assessment and Restoration Plan." Attached are Ohio EPA's comments on the document. Ohio EPA proposes a meeting of the Natural Resource Trustees as soon as possible for all parties. Ohio EPA understands the importance of a timely resolution of the comments and revision of the NRIA and NRRP and looks forward to implementation of restoration activities in the near term. Following successful revision of the document, it will be appropriate to have a public workshop concerning the NRRP.

If you have any questions, please contact me.

Sincerely,

Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

cc: Jim Saric, U.S. EPA
Terry Hagen, FDF
Ruth Vandergrift, ODH
Mark Shupe, HSI GeoTrans
Francie Barker, Tetra Tech EM Inc.
Manager, TPSS/DERR,CO
Vanessa Steigerwald, DERR/CO
Tim Kern, Ohio Attorney General Office
Don Henne, DOI

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NATURAL RESOURCE IMPACT ASSESSMENT AND NATURAL RESOURCE RESTORATION PLAN

1) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Comment Pg #: Line #: Code: M
Original Comment #:
Comment: Ohio EPA is concerned with what appears to be a lack of commitment to goals outlined in the previous versions of the NRRP. DOE has proposed dates and projects in previous versions of the document that have been delayed or reduced in scope in the most recent submittal. These changes raise questions regarding DOE's commitment at the site level to successful resolution of the State of Ohio's NRDA suit against DOE. It is important that DOE embrace the projects outlined within the NRRP across the site increase awareness of the significance of what will be achieved through resolution of the NRDA claim.

NATURAL RESOURCE IMPACT ASSESSMENT

2) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.1 Pg #: 3 Line #: 9 Code: C
Original Comment #:
Comment: To the extent that actions resulted in the reduction of additional/future impacts it would be "credited"in the HEA by a reduction in impact (increase in service level). To the extent the actions do not result in a reduction of impact or replacement of resources "credit" can not be given.

3) Commenting Organization: Ohio EPA Commentor: CO
Section #: NRIA 1.2.1, Pg #: 4 Line #: 23-30
This paragraph should be modified to state the following: Although uranium concentrations in soils exceed background concentrations around the FEMP, they do not necessarily present an unacceptable risk to human or ecological receptors, depending on the concentration of uranium and other chemicals. While the goal of remediation may be to manage risk at acceptable levels, the goal of restoration is to restore injured natural resources to baseline conditions and to compensate for interim lost services.

4) Commenting Organization: Ohio EPA Commentor: CO
Section #: NRIA 1.2.1, Pg #: 4-5 Line #:6-12
Remediating the impacted groundwater to the uranium MCL of 20 ug/l does not fully restore the groundwater to baseline conditions. There is an intrinsic non-use value associated with uncontaminated groundwater (e.g. people would generally prefer to drink groundwater at 3 ug/l versus 20 ug/l uranium). The portion of this paragraph which states that natural resource restoration is not required should be omitted. It should be added to this paragraph that while the goal of remediation may be to manage risk at acceptable levels, the goal of restoration is to restore injured natural resources to baseline conditions and to compensate for interim lost services. In April 1997, an expert panel put together by the National Research Council (NRC), a branch of the National Academy of Sciences, highly recommended policy makers to account for the non-use or *in situ* values of groundwater in addition to its use values to account for the total value of groundwater. For instance, using the HEA, the service level of

groundwater restored to the MCL is estimated at 95% in the Draft Addendum B HEA to account for the residual uranium present after remediation has been completed. In addition, Ohio EPA recommends a service level of 80% rather than 95% to account for this residual contamination (refer to HEA comments).

5) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1.1.1 Pg #: 13 Line #: 9 Code: E
Original Comment #:
Comment: Typo "leoading".

6) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1.2.1 & 2.2.2 Pg #: 16 Line #: 6-12 Code: C
Original Comment #:
Comment: The section should include reference to contaminated debris placed along the GMR in proximity to the outfall. This debris was discovered during the new effluent line construction. Some debris removal occurred but contaminated debris was left in place and will require removal during a later remediation (incorporate into 2.2.2).

7) Commenting Organization: Ohio EPA Commentor: DSW
Section #: 2.1.2.1 Pg #: 19 Line #: 20-21 Code: C
Original Comment #:
Comment: It is my understanding that sampling of fish has been discontinued by FDF, therefore this should not state that this is an ongoing effort.

8) Commenting Organization: Ohio EPA Commentor: OFFO/DSW
Section #: 2.2.1 Pg #: 20&22 Line #: 1-10&18-20 Code: C
Original Comment #:
Comment: Prior to development of the site, a drainage entered Paddys Run slightly upstream of the silos. This can be seen on early aerial photographs. The remnant of this drainage swale is still evident at Paddys Run. The swale drained most of the northwest area of the site. This drainage was eliminated by the filling of the drainage basin with waste. The elimination of this drainage has contributed to increased flow in Paddys Run during rain events (via rerouting of flow) and removal of intersecting flow just upstream of the silos. The result of this change has been an eroding of the stream bank west of the silos. The impact assessment should account for elimination of this tributary to Paddys Run and its associated riparian zone.

9) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2.1 Pg #: Line #: Code: C
Original Comment #:

Comment: The impact assessment should include a discussion of the contaminated fill placed along the eastern bank of Paddys Run in the area of the silos. The discussion should include the impacts of contamination and physical placement upon the riparian zone as well as the stream.

10) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2.1 Pg #: 20 Line #: 5-7 Code: C
Original Comment #:
Comment: Impacts were not limited to the east side in areas of steam relocation as it results in moving the riparian zone on both sides of the stream. In areas of stream alteration the area impacted must be increased.

11) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:2.2.1 Pg #:23 Line #:4-7 Code: C
Original Comment #:
Comment: Based upon field observations of Paddys Run, it appears the IAFP removal action also negatively impacted downstream areas by increasing erosional forces along the stream bank. The results of transferring the erosional energy is downstream erosion and riparian degradation.

12) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:2.2.2 Pg #:23 Line #: Code: C
Original Comment #:
Comment: Include reference to the planned actions to engineer bank stability along Paddys Run west of the K-65 silos and its associated impacts.

13) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:2.3.2 Pg #:26 Line #: Code: C
Original Comment #:
Comment: Include reference to the construction of the Haul Road and Southern Waste Unit soil stockpile area impacts on the Southern Pines and local drainage.

Commenting Organization: Ohio EPA Commentor: CO
Section #: NRIA 2.4.1, Pg # 27,28 Line #:33,1
Comment: It is stated that "No metals or pesticides were detected in FEMP soil and earthworm samples." This sentence needs clarification as metals would have been detected, just not above background.

14) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.0 Pg #: Line #: Code: C
Original Comment #:

Comment: Incorporate revisions based upon previous comments within Section 3.0

15) Commenting Organization: Ohio EPA Commentor: DSW
Section #: Table 2-1 Pg #: Line #: Code: C
Original Comment #:
Comment: The source of the BTV for Ammonia is unclear. This is a pH and temperature dependent contaminant and is listed differently in the water quality standards for 30 day average and maximum values. Please explain the origin of the Ammonia BTV.

16) Commenting Organization: Ohio EPA Commentor: DSW
Section #: Table 2-3 Pg #: Line #: Code:
Original Comment #:
Comment: The Ohio EPA collected fish from Paddys Run during 1995. This data could be included and referenced here.

17) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:Table 3-1 Pg #: Line #: Code: C
Original Comment #:
Comment: The table references 3 acres of future impacts to the GMA while Section 3.0 states up to 15 acres of future impact.

18) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:Figure 2-1 Pg #: Line #: Code: C
Original Comment #:
Comment: Please ensure the most up to date map of the GMA contamination is provided.

NATURAL RESOURCE RESTORATION PLAN

19) Commenting Organization: Ohio EPA Commentor: DSW
Section #: Pg #: Line #: Code: E
Original Comment #:
Comment: It would be helpful to have tab dividers for the addenda section. As the document now reads, the reader must leaf through to find the addenda (e.g. finding Addendum B, the HEA).

Addendum A

20) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:Addendum A ECOC Review Pg #: Line #: Code: C
Original Comment #:

Comment: See Ohio EPA comments on the Sitewide Excavation Plan. Revise COECs and this section as appropriate.

Addendum B HEA

21) Commenting Organization: Ohio EPA Commentor: CO
Section#:1.0 Pg#: 1 Line#: 6-8
Comment: This sentence should be reworded to state that "a process that meets at least all of the substantive aspects of the NRDA process and CERCLA."

22) Commenting Organization: Ohio EPA Commentor: CO
Section#: 2.0 Pg#: 1-2 Line#:
It is suggested that "primary" restoration is not required by the CERCLA regulations to compensate for natural resource injuries. To the contrary, primary and compensatory restoration are required to fully compensate for natural resource injuries. In practice, both trustees and responsible parties define "primary restoration" as measures that return injured natural resources to their baseline conditions, and "compensatory restoration" as measures that are intended to replace the services that the public foregoes pending the return of injured natural resources to their baseline conditions. This document needs to clearly define "primary" and "compensatory" restoration accordingly.

23) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:HEA 2.0 Pg #:2 Line #: 3-12 Code: C
Original Comment #:
Comment: Areas designated as Supplemental Environmental Projects for the settlement between USEPA and DOE regarding OU4, should be removed from the area available for restoration calculations. In addition, any area chosen by DOE to be set aside for land use evaluation by the CRO must also be removed from the available restoration calculations. The use of that property will also determine the restoration value of adjacent property as edge effects may diminish adjacent property ecological value.

24) Commenting Organization: Ohio EPA Commentor: DSW
Section #: HEA 2.0 Pg #: 2 Line #: 11-12 Code: E
Original Comment #:
Comment: A singular noun for the subject (project) is used with a plural verb (are).

25) Commenting Organization: Ohio EPA Commentor: CO
Section#: 2.2 Pg#: 3 Line#: 30
Comment: Please reference the "general guidance" referred to here.

26) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:HEA 2.2.4 Pg #:5 Line #: 8-9 Code: C
Original Comment #:
Comment: Ohio EPA does not believe the HEA methodology proposed adequately addresses the impacts to groundwater nor does it provide adequate compensation for those impacts. Ohio EPA comments on that particular section will provide alternative calculations for groundwater impact assessment.

27) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:HEA 2.5 Pg #:6 Line #: 6-8 Code: C
Original Comment #:
Comment: Sufficient justification is not provided to support DOE's assumption that habitats will recover in 20 years. Ohio EPA believes it will take significantly longer to achieve restoration of forested habitats such as riparian areas and the southern waste units. DOE must provide substantial justification for the 20 year restoration period or extend the recovery period significantly.

28) Commenting Organization: Ohio EPA Commentor: OFFO
Section #:HEA 2.5 Pg #:6 Line #: 8-12 Code: C
Original Comment #:
Comment: Ohio EPA concurs that some restored habitats may exceed 100% of the baseline habitat but does not concur that will be achieved within 20 years.

29) Commenting Organization: Ohio EPA Commentor: CO
Section#: HEA General Comment for all Tables Pg#: Line#:
Comment: The interim loss calculations are carried out until the recovery is complete (a specific date). However, the service increases calculations are carried out to infinity. In other words, the debits and credits are not being treated equitably. The service increase calculations should also be stopped once recovery is complete (specific date).

30) Commenting Organization: Ohio EPA Commentor: OFFO/DSW
Section #: HEA 3.1.1 Pg #: 7 Line #: 1-49 Code: C
Original Comment #:
Comment: a) Include in impact calculations the filling of the Paddys Run tributary historically located in the waste pit area with waste between 1957 and 1962. Damages include destruction of the stream and associated riparian zone as well as changes to the hydraulic forces in Paddy's Run which increased erosion.
b)The basis for concluding Paddy's Run was modified in 1962 vs 1957 is unclear. The photos show a complete modification including waste pits with material in place in 1962. This suggests the stream modification occurred prior to 1962. If additional data to support the 1962 claim or another date is not found, Ohio EPA recommends selection of a date between the two available photos.

c) Include impacts to Paddys Run from the placement of contaminated debris along the eastern bank of Paddys Run in proximity of the silos. Aerial photos Ohio EPA reviewed showed placement of waste in this area in the early 1980s.
d) Include impacts to the storm water outfall ditch by placement of flyash from the active flyash pile into the riparian zone of the stream.
e) Include impacts from the current activities in Paddys Run adjacent to the silos.
f) Include a base map showing anticipated future impacts used to calculate the area provided in the last bullet on page 7. Such a map is necessary to measure the extent of unanticipated impacts resulting from remedial actions. A base map of future impacts is necessary for all categories of habitat in order to provide a base against which to measure for reporting in the IEMP quarterly reports.
g) As stated in a previous comment, Ohio EPA does not concur the riparian zone will be restored within 20 years and does not concur with the assumption of 110%. This percentage should be changed to 100%.

31) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: HEA 3.2.1 Pg #: 10 Line #: 1-40 Code: C
Original Comment #:
Comment: a) Ohio EPA believes excavation in woodlots result in negative impacts extending beyond the boundaries of the excavation. Edge effects likely decrease the value of adjacent areas. Additionally, within the northern pine plantation materials from removal of the trees were pushed into adjacent woods negatively impacting vegetation in the area. Such effects should be accounted for in the HEA (see 3rd and 5th bullets).
b) It is unclear how DOE proposes the area will achieve a service level of greater than 100% when 40 acres (or 25% of the area) were removed and not replaced within the woodlot. Additionally, Ohio EPA does not believe the restoration activities within the northern pines will have achieved maturity within 15 years. As stated previously, we believe 20 years has not been sufficiently supported.
c) The HEA should include within the calculations the impact of installation of the road within the northern woodlot and wetlands for access to the air monitor.
d) Include a base map showing anticipated future impacts used to calculate the area provided in the HEA. Such a map is necessary to measure the extent of unanticipated impacts resulting from remedial actions. A base map of future impacts is necessary for all categories of habitat in order to provide a base against which to measure for reporting in the IEMP quarterly reports.

32) Commenting Organization: Ohio EPA Commentor: CO
Section#: 3.2.1 and Table 2 Pg#: 10-12 Line#:
Comment: Ground clearing for borrow area is expected to have a higher service loss. The portion cleared should be included in the text, and a high service loss should be associated with this area such as 80-90%.

33) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: HEA 3.3.1 Pg #: 13-14 Line #: Code: C
Original Comment #:
Comment: a) Does this habitat or another account for the impacts upon riparian woods in the Southfield caused by installation of pipelines for the groundwater extraction and injection system?
b) The HEA table shows start of excavation activities in 1998 whereas actual excavation and in particular clearing occurred in 1997.
c) Does the area addressed in this section account for clearing of pines associated with the A2P1 site prep as well as impacts upon pines, streams and woods by installation of the Haul Road?
d) Ohio EPA does not concur with the assumption of 20 years to achieve a 100% service level. Additional justification should be provided or the number of years adequately extended.
e) Include a base map showing anticipated future impacts used to calculate the area provided in the HEA. Such a map is necessary to measure the extent of unanticipated impacts resulting from remedial actions. A base map of future impacts is necessary for all categories of habitat in order to provide a base against which to measure for reporting in the IEMP quarterly reports.

34) Commenting Organization: Ohio EPA Commentor: CO
Section#: 3.3.1 and Table 3 Pg#: 13-15 Line#:
Comment: Further detailed justification is needed for the estimate of 85% service level due to the Inactive Flyash Pile and Southfield as a disposal area and clearing activities. What amount of acreage was involved? It appears that 85% may be an underestimate. A 7.5% (5 acres/66 acres) decrease in service level should be associated with the 1966 Active Flyash Pile. Additional clear justification is needed on "modifying the percent based on a subjective increase in service level due to the closure of the Inactive Flyash Pile and Southfield" (lines 18-19, page 13). A 26% decrease in service level should be associated with the 17 acres being cleared in 1998 (17acres/66 acres = 26%).

35) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: HEA 3.4.1 Pg #: 16 Line #: Code: C
Original Comment #:
Comment: a) DOE should provide additional justification for estimating the recovery of a prairie or wetland habitat to maturity within 5 years. Ohio EPA believes it will take longer than 5 years for maturity of either system. Ohio EPA concurs that the proposed habitat exceed the baseline to achieve 110% upon maturity.
b) Include a base map showing anticipated future impacts used to calculate the area provided in the HEA. Such a map is necessary to measure the extent of unanticipated impacts resulting from remedial actions. A base map of future impacts is necessary for all categories of habitat in order to provide a base against which to measure for reporting in the IEMP quarterly reports.

36) Commenting Organization: Ohio EPA Commentor: CO

Section#: 3.4.1 and Table 4 Pg#: 16-18 Line#:
Comment: The number of acres (or best estimates based on historical data) associated with the specific impacts need to be included to justify the percentages chosen. It is stated that 93 acres of grasslands were impacted by air deposition, yet only a 2% decrease in service level was used. Grasslands do provide important habitat functions and a higher service level decrease should be used based on site-specific data, contaminant levels, locations. etc. A cap at 100% service level should be used. In the past prior to site impacts, this area would have had a similarly diverse habitat function.

37) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: HEA 3.5.1 Pg #: 19 Line #: Code: C
Original Comment #:
Comment: a) See previous comment regarding destruction of the Paddys Run tributary
b) Additional justification for the 15 year maturation should be provided.
c) Include a base map showing anticipated future impacts used to calculate the area provided in the HEA. Such a map is necessary to measure the extent of unanticipated impacts resulting from remedial actions. A base map of future impacts is necessary for all categories of habitat in order to provide a base against which to measure for reporting in the IEMP quarterly reports.

38) Commenting Organization: Ohio EPA Commentor: CO
Section#: 3.5.1 and Table 5 Pg#: 19-21 Line#:
Comment: The percentage of habitat impacted needs to be detailed in order to justify the percentages. The decrease in service level of only 5% needs detailed justification. In addition, the service level provided should be capped at 100% due to the fact that the area would not have been impacted prior to site activities. The unmanaged fragmented ditches exist due to site activities.

39) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: HEA 3.6.1 Pg #: 21-22 Line #: Code: C
Original Comment #:
Comment: a) Ohio EPA does not concur that cessation of production, installation of the SWR, nor RA No.3 increased service levels of the aquifer. These actions limited the future damages of the resource but did not directly result in restoration of the resource.
b)Ohio EPA believes the service level of the aquifer contaminated above 20ppb should be zero. As such the HEA should be recalculated to reflect that.
c) As stated in previous comments, the document does appear to adequately address the extent of impacts to the GMR bank from waste placement. This section does not appear to complete that task and as such must be revised to specifically account for that impact.
d) Include a base map showing anticipated future impacts used to calculate the area provided in the HEA. Such a map is necessary to measure the extent of unanticipated impacts resulting from remedial actions. A base map of future impacts is necessary for all categories of habitat in order to provide a base

against which to measure for reporting in the IEMP quarterly reports.

40) Commenting Organization: Ohio EPA Commentor: CO
Section#: 3.6.1 and Table 6 Pg#: 21-23 Line#:
Comment: The following assumptions are recommended by Ohio EPA for the Great Miami Aquifer HEA calculations:

1) %Service Level from 1953 to 1965 should decrease by approximately 7.5% each year to reach a %Service Level in 1965 of 10% when the contamination had breached the site boundary. A 10% Service Level reflects the fact that the primary service of the groundwater as a potable source of drinking water no longer exists. The 10% Service Level remaining reflects the hydro geologic value of the groundwater in place.
2) From 1965 to 1996 the %Service Level remains 10%. The groundwater is not potable.
3) In 1997, due to the installation of the public water supply, the %Service Level is increased to 50% to account for the alternate water supply. However, there are significant costs to the consumer and taxpayer associated with this alternate water supply. 4) From 1997 to 2009, the %Service Level remains at 50% until the MCL of 20 ug/l for uranium is reached.
5) Once the MCL is achieved, the %Service Level is raised to 80%. The 80% Service Level accounts for the residual contamination left in place to gradually dilute over time. There is an intrinsic non-use value associated with uncontaminated groundwater (e.g. people would generally prefer to drink groundwater at background levels of 3 ug/l compared to 20 ug/l uranium; a negative stigma is associated with contaminated groundwater). In April 1997, an expert panel put together by National Research Council (NRC), a branch of the National Academy of Sciences, highly recommended policy makers to account for the non-use or *in situ* values of groundwater in addition to its use values to account for the total value of groundwater.

41) Commenting Organization: Ohio EPA Commentor: CO
Section#: 3.6.1 and Table 6 Pg#: 21-23 Line#:
Comment: The HEA should be used to quantify the effective acres lost due to the residual contamination between 3-20 ug/l uranium in the total 1198 acres impacted. A 20% loss in service level is recommended to account for this residual contamination. Although the remediation will restore the groundwater to the MCL for uranium, residual contamination will still be associated with this critical resource aquifer, reducing its value. While the goal of remediation may be to manage risk at acceptable levels, the goal of restoration is to restore injured natural resources to baseline conditions and to compensate for interim lost services.

42) Commenting Organization: Ohio EPA Commentor: CO
Section#: 3.6.1 and Table 6 Pg#: 21-23 Line#:
Comment: The debits (Interim losses due to the GMA injury) and credits (Service increases due to Replacement Project) are not being treated equitably. The replacement project should stop in the year

2009 rather than be carried on to infinity, similar to the Interim losses calculation.

43) Commenting Organization: Ohio EPA Commentor: CO
Section#: Section 3.6.1 and Table 6 Pg#: 21-23 Line#:
Comment: In the compensatory columns, what the HEA results mean is that an additional 156.80 acres of aquifer will need to be treated for compensatory restoration in addition to the 172 acres of aquifer being treated for primary restoration. Purchasing 157 acres of habitat is not equivalent to treating 157 acres of groundwater. Compensatory damages serve to compensate the public for the lost use of the specific natural resource until remediation has been completed.

However, Ohio EPA realizes that there appear to be significant limitations in trying to apply the HEA to groundwater. The amount of groundwater impacted in acres cannot be simply translated to acres of land habitat using the HEA methodology. Perhaps volume terms should be used rather than acres. The HEA was designed for terrestrial land injury applications, not groundwater. In this case, a critical resource aquifer has been injured. Through a natural resources damage assessment, like natural resources need to be restored, replaced, rehabilitated or equivalent natural resources acquired to compensate for the injured natural resources. Acres of land habitat are not equivalent to acres of injured groundwater being treated, etc. This issue needs to be addressed and resolved in consultation with the Natural Resources Trustees. A restoration plan that adequately compensates for groundwater injury, in addition to the terrestrial habitat injury, is needed. The restoration plan for groundwater injury should include projects that provide compensation for groundwater resources such as the following: help develop wellhead protection plans and provide wellhead protection for a nearby community; treat impacted groundwater; and provide protection of important groundwater recharge zones for the GMA (as proposed in NRRP for certain areas, perhaps applying a weighting factor to account for the fact that groundwater is not equivalent to acres of land habitat).

44) Commenting Organization: Ohio EPA Commentor: DSW/OFFO
Section #: HEA 3.7.1 Pg #: 24 Line #: Code: C
Original Comment #:
Comment: a)What basis is used to determine that a 1% reduction for every 1000 kg of uranium released annually into the GMR? It is our understanding that the studies done by the University of Cincinnati indicated no impacts attributable to the site were observed in the GMR.
b)If impacts are assumed to have occurred (see "a") then taking ten feet times the linear feet of the sample site is insufficient. For example the western shore of the GMR is taken as the sampling site by University of Cincinnati whereas during 1995 the eastern shore was sampled at station GM19. A more reasonable estimation would be to use the river width from the outfall downstream to at least the downstream sampling site as it would be the entire river receiving the impact, not just the sampled area; or at the very least a ten foot width along each shoreline where the most likely habitat for fish would exist.

c) See previous comments regarding historical waste placement along the GMR at the outfall line and anticipated future remediation impacts.
d) Include a base map showing anticipated future impacts used to calculate the area provided in the HEA. Such a map is necessary to measure the extent of unanticipated impacts resulting from remedial actions. A base map of future impacts is necessary for all categories of habitat in order to provide a base against which to measure for reporting in the IEMP quarterly reports.

Natural Resource Restoration Plan

45) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP1.0 Pg #: 1 Line #: 1-21 Code: C
Original Comment #:
Comment: Ohio EPA is concerned with the changes made to this section. Obviously, Ohio EPA will not be able to resolve the outstanding suit until such time as DOE has committed to the restoration activities being implemented without future changes in land use. Ohio EPA supports the stakeholder involvement but finds it difficult to negotiate a settlement with potential for land use change hanging over the project. DOE needs to expedite decisions, including public involvement, regarding land use so that a settlement can be reached.

46) Commenting Organization: Ohio EPA Commentor: CO
Section#:1.1 Pg#: 2 Line#: 5-6
Comment: The word 'injuries' should be used rather than 'impacts' which is consistent with the NRDA regulations.

47) Commenting Organization: Ohio EPA Commentor: CO
Section#:1.3 Pg#: 4 Line#: 1-2
Comment: 172 acres of groundwater has been injured above the MCL of 20 ug/l for uranium. However, 1198 acres of groundwater has been injured above the background concentration of 3 ug/l or "baseline" conditions. This needs to be clarified.

48) Commenting Organization: Ohio EPA Commentor: CO
Section#:1.3 and 1.4 Pg#: 4-5 Line#: 20-24; 26-32 and 1-5
The amount of groundwater impacted in acres cannot be simply translated to acres of land habitat using the HEA methodology. The HEA was designed for terrestrial land injury applications, not groundwater. Through a natural resources damage assessment, like natural resources need to be restored, replaced, rehabilitated or equivalent natural resources acquired to compensate for the injured natural resources. Acres of land are not equivalent to acres of injured groundwater. This issue needs to be addressed. A restoration plan that adequately compensates for groundwater injury, in addition to the terrestrial habitat injury, is needed. The comments on Addendum B Habitat Equivalency Analysis (HEA) need to be

referred to for this section and address this issue in more detail.

49) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP1.5 Pg #: 5 Line #: 14-27 Code: C
Original Comment #:
Comment: Again Ohio EPA does not support the changes proposed to the text. Ohio EPA believes that all three bullets are appropriate activities. Providing access for Native Americans to re-inter remains is consistent with the proposed restoration activities. It is Ohio EPA's understanding that the Native American Alliance of Ohio would like access to property for reburial of culturally unaffiliated remains. Ohio EPA believes that DOE and the trustees could work with this group to meet the needs of restoration as well as reburial. To the extent that burials would allow for planting of trees or prairie habitat over the sites, everyone's needs could be met. Additionally, if educational signs were used they could add to the value of the site. Ohio EPA supports the use of the site for environmental educational activities. Interpretive signs and trails will only add to the value of the site following restoration.

50) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP2.2.1 Pg #: 9 Line #: 4-12 Code: C
Original Comment #:
Comment: Ohio EPA does not concur with the proposal to recalculate only if impacts are greater than two acres. Impacts should be accumulated and at some appropriate point (annually, after a sum of two acres, etc) the HEA tables recalculated. In addition, it is important to consider the location or habitat type impacted. An additional two acres of grass land impact is much different from two acres of riparian zone or wetlands. Ohio EPA believes the impact monitoring and appropriate recalculations are an essential function of any settlement concerning NRDA.

51) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP2.2.3 Pg #: 10 Line #: 6-10 Code: C
Original Comment #:
Comment: See Ohio EPA comments regarding the Sitewide Excavation Plan and associated revisions to that document. The NRRP should be revised consistent with the SEP.

52) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.0 &3.1 Pg #: 12 Line #: Code: C
Original Comment #:
Comment: DOE has removed reference to the need to complete wetland mitigation in the near term. Ohio EPA has not changed its position on the need to complete the required mitigation in the near term. Ohio EPA expects DOE will revise the document to implement wetland mitigation within the next year as agreed to by DOE, USEPA and Ohio EPA in previous meetings. Ohio EPA recommends DOE look at expedited implementation of mitigation in the northeast corner of the site, east of the north access

road. The area was required to be certified by now, has not had a good vegetation cover reestablished and appears to be suitable in terms of permeability and water supply. In the case this area does not provide sufficient acreage to meet mitigation requirements, future areas such can be evaluated for wetland establishment following certification activities.

Additionally, Ohio EPA believes the implementation of near term projects are essential to showing DOE's commitment to a negotiated resolution of Ohio's outstanding claim.

53) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.1 Pg #: 13 Line #: Code: C
Original Comment #:
Comment: As currently proposed Ohio EPA, does not see the aesthetic barriers as providing significant ecological benefits. The aesthetic barriers are necessary to limit the visual impacts of such a large scale quarrying operation as is planned on the southeastern portion of the site. Additionally, the barriers were recommended by the Fernald Citizens Advisory Board some time ago in hopes of limiting visual impacts. Ohio EPA recommends DOE expedite installation of these barriers to ensure their establishment prior to initiation of excavation in the borrow pit.

54) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.1.2 Pg #: 14 Line #: Code: C
Original Comment #:
Comment: Ohio EPA recommends planting native grasses and forbes along the road side of the barrier. Planting of such an area will hopefully reduce the "barrier" appearance the project.

55) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.2 Pg #: 14-15 Line #: Code: C
Original Comment #:
Comment: Ohio EPA concurs with DOE's proposal regarding the demonstration forest. However, Ohio EPA believes the sooner grazing in the area is terminated or at least restricted from within Paddys Run and the riparian zone the sooner improvements to the habitat will be noted. In addition, this area drains into the area known to be inhabited by Sloan's Crayfish and all possible efforts must be made to protect this population.

56) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.3.2 Pg #: 18 Line #: 5-13 Code: C
Original Comment #:
Comment:a) Ohio EPA recommends inclusion of hickory trees into the proposed mix. Additionally, it may be most efficient to sow native prairie grasses along the slopes in the area to aid in initial stabilization and provide ground cover while establishing other vegetation.

b) Line 11 references the "Area 1 Phase 1 Woodlots". Please review to ensure it is located in the correct section.

57) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.4 Pg #: 19 Line #: 114-18 Code: C
Original Comment #:
Comment: A draft certification report has been submitted to the agencies for this area. The text should be revised to appropriately reflect the status of the project.

58) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.4.2 Pg #: 20 Line #: 18-23 Code: C
Original Comment #:
Comment: A1P1 construction activities are completed. OSDF construction is on-going but does not extend to any additional extent into the A1P1 woodlot, therefore Ohio EPA does not concur with the proposal to delay this project. Ohio EPA believes that activities could be initiated in this area immediately with little risk of additional impact from construction. DOE should plan work in this area in the more immediate future.

59) Commenting Organization: Ohio EPA Commentor: DSW
Section #: NRRP 3.1.5 Pg #: 21 Line #: 4-6 Code: C
Original Comment #:
Comment: This section states that the lessee may continue to lease the land west of Paddys Run for grazing for several years following the termination of the Area 1, Phase III lease. However Section 3.1.2 (pages 14 and 15) states that the grazing lease will be terminated and the project implemented in the Autumn of 1999. As the area west of Paddys Run is a demonstration area and is described as a near-term restoration project, it appears as though the statement in section 3.1.5 is incorrect.

60) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.6 Pg #: 22 Line #: Code: C
Original Comment #:
Comment: DOE is proposing to significantly delay what was proposed as a near term mitigation activity. As stated previously, Ohio EPA believes mitigation should be initiated in the near term and in the northeast portion of the site. Additionally, Ohio EPA recommends the referenced meeting with Ohio EPA, USFWS and USEPA be initiated at the earliest possible time to discuss DOE's compliance with wetland mitigation requirements.

61) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP3.1.6.2 Pg #: 24 Line #: 28-32 Code: C
Original Comment #:

Comment: Stockpiling of soil significantly reduces it productivity as topsoil by destroying the referenced mycorrhizal fungi and affecting nutrient availability. Soil used from stockpiles may require inoculation with mycorrhizal fungi to increase restoration success.

62) Commenting Organization: Ohio EPA Commentor: DSW
Section #: NRRP3.1.7 Pg #: 25 Line #: 28 Code: E
Original Comment #:
Comment: "datas" should read "dates".

63) Commenting Organization: Ohio EPA Commentor: DSW
Section #: NRRP 3.1.7 Pg #: 26 Line #: 3 Code: C
Original Comment #:
Comment: This table shows the implementation of the demonstration forest project starting Spring 1999, and Section 3.1.2 (pages 14 and 15) states that the grazing lease will be terminated and the project implemented in the Autumn of 1999.

64) Commenting Organization: Ohio EPA Commentor: DSW
Section #: NRRP 3.2.1.2 Pg #: 29 Line #: 27 Code: C
Original Comment #:
Comment: If these "intermittent stream" areas are the drainage areas between ponds, they could be designed in such a way as to act as intermittently flooded wetland/grassland areas in which case addition of topsoil may be required to establish appropriate vegetative cover.

65) Commenting Organization: Ohio EPA Commentor:OFFO
Section #: NRRP 3.2.1.2 Pg #: 30 Line #: 1-11 Code: C
Original Comment #:
Comment: Please provide a reference supporting the proposed seed mixture and application rate.

66) Commenting Organization: Ohio EPA Commentor: DSW
Section #: NRRP 3.2.6.2 Pg #: 39 Line #: 25 Code: C
Original Comment #:
Comment: The current design shows the planting border generally in a straight line east to west. It would provide more visual interest and look less "planted" if the planting were curved either in a single arc or a sinuous pattern.

67) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP 3.6 Pg #: 38 Line #: 32 Code: C
Original Comment #:
Comment: It is unclear how DOE proposes to turn the drainage ditch to a headwater stream of high

habitat value considering its current state of riprap. Ohio EPA is encouraged by the proposal though and looks forward to additional detail.

68) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP4.1 Pg #: 41 Line #: Code: C
Original Comment #:
Comment: Accuracy and procedures are important aspects to successful use of a GPS. Please provide a reference to the appropriate SCQ procedure for use of a GPS and subsequent data processing.

69) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP Figure 3-2 Pg #: Line #: Code: C
Original Comment #:
Comment: Ohio EPA recommends addition of flowering dogwood trees to the barrier.

70) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP Figure 3-3 Pg #: Line #: Code: C
Original Comment #:
Comment: Ohio EPA believes the proposed barrier will be of limited aesthetic or biological value as proposed. Improvements to ecological value and possibly aesthetic value could be made by incorporating the barrier into the previously proposed wetland system in the northeast corner.

71) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRP Figure 3-4 Pg #: Line #: Code: C
Original Comment #:
Comment: Additional detail/justification should be provided regarding the types of trees and frequency of distribution proposed. Such detail and justification can be provided in the NRRP or if the layout is conceptual, references should be provided in the work plan/design for the project. In particular, Ohio EPA will be interested in references regarding appropriate species distribution for riparian zone and Indian Bat habitat.

72) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: NRRPFigure 3-5 thru 3-10 Pg #: Line #: Code: C
Original Comment #:
Comment: Again, Ohio EPA is interested in references supporting the proposed vegetation distribution. Such detail and justification can be provided in the NRRP or if the layout provided is conceptual, references should be provided in the work plan/design for the project.

73) Commenting Organization: Ohio EPA Commentor: DSW
Section #: Addendum C,1.2 Pg #: 1-2 Line #: N/A Code: C

Original Comment #:
Comment: In the context of the site remediation, the primary purpose of the ponds is to eliminate the expense of bringing in fill the level the final grade rather than to produce four ponds. The ponds are the result of leaving the grade as excavated after removal of contaminated soils.